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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
YACOB, SISAY	

ART UNIT	PAPER NUMBER
2612	

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/662,017	HARRIS, JEREMY	
	Examiner	Art Unit	
	Sisay Yacob	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1 This communication is in response to applicant's amendment to first non-final office action, which was filed October 02, 2006.

2 Arguments and amendments to claims have been entered and made of record in the application of Harris "System and method for detecting the connection state of a network cable connector" filed on September 11, 2003.

Claims 1-3, 5, 8, 10, 14-16, 20, 21, 24, 25, 32 and 34-38 are amended.

Claims 4, 6, 7, 9, 11-13, 17-19, 22, 23, 26-31, 33 and 39 are the same as originally filed.

Claims 1-39 are pending.

Note

3 applicant new drawings in response to the objection in the first office action has been entered and made of record.

Response to Arguments

4 Applicant's arguments with respect to claims 1-39 have been considered but are moot in view of the new ground(s) of rejection.

Rejections - 35 USC § 103

5 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6 The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7 Claims 1-4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the US Patent of Kim (6,975,312 B2) in view of US Patent of Rand et al., (6,459,374 B1).

8 As to claim 1, Kim discloses a method for detecting an information technology (IT) network cable disconnection (Col. 1, lines 40-43), said method comprising detecting a change of connection state of a network cable connector, wherein the network cable

connector is defined to enable connection of an IT network cable to an IT network connected device such that IT network signal can be transmitted between the IT network connected device and the IT network cable through the network cable connector, generating connection state information from information supplied, and communicating said connection state information to a connection state monitoring utility within the IT network (Col. 1, lines 49-59 Col. 2, lines 3-13). However, Kim does not expressly disclose using a sensor that resides in said network cable connector and connection state information being supplied by a sensor. Rand et al., discloses a method for detecting a network cable disconnection (Col. 2, lines 5-31), said method comprising detecting a change of connection state of a connector (Item 10 of figure 1) of using a sensor (Item 15 of figure 1) that resides in said connector (Col. 3, lines 17-25), generating connection state information from information supplied by said sensor (Col. 3, lines 29-54).

One of ordinary skill in the art, at the time of the invention, would have been motivated to combine the two, in order to have a method for detecting an information technology (IT) network cable disconnection, said method comprising detecting a change of connection state of a network cable connector, wherein the network cable connector is defined to enable connection of an IT network cable to an IT network connected device such that IT network signal can be transmitted between the IT network connected device and the IT network cable through the network cable connector, generating connection state information from information supplied by said sensor, and communicating said connection state information to a connection state

monitoring utility within the IT network, because both disclosures are directed to solving similar problem, which is detecting a connection sate of network cable.

9 As to claim 2, the method as described in claim 1, further, Rand et al., discloses wherein said network cable connector is a cable plug (Col. 3, lines 60-64; Items 12 and 21 of figure 1).

10 As to claim 3, the method as described in claim 1, further, Rand et al., discloses wherein said network cable connector is a socket (Col. 3, lines 60-64; Items 31 and 52 of figure 1).

11 As to claim 4, the method of claim 1, further, Rand et al., discloses wherein said sensor includes a switch selected from the group that includes mechanical, electrical, resistive, optical and capacitive switches (Col. 4, line 2; Item 40 of figure 3).

12 As to claim 7, the method of claim 2, further, Rand et al., discloses wherein said cable plug is attached to an endpoint of said network cable (Items 12 and 21 of figure 1).

13 Claims 5, 6, 8, 9, 12-19, 22-32 and 35-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent of Kim (6,975,312 B2) in view of Rand et al., and further in view of U.S. Patent of Billiard (6,842,114).

14 As to claim 14, Kim discloses a method for detecting an information technology (IT) network cable connection state (Col. 1, lines 40-43), said method comprising detecting a state change of a network cable connector within an IT network, generating connection state information from information supplied, and communicating said connection state information from the network cable connector through the IT network to said connection monitoring utility (Col. 1, lines 49-59 Col. 2, lines 3-13). However, Kim does not expressly disclose using a contact sensor that resides in said network cable connector, connection state information being supplied by a sensor, receiving an interrogation signal at the network cable connection from a connection state monitoring utility within an IT network and using a network communication protocol in response to receiving an interrogation signal. Rand et al., discloses a method for detecting a network cable disconnection (Col. 2, lines 5-31), said method comprising detecting a change of connection state of a connector (Item 10 of figure 1) using a sensor (Item 15 of figure 1) that resides in a connector (Col. 3, lines 17-25), and generating connection state information from information supplied by said sensor (Col. 3, lines 29-54).

One of ordinary skill in the art, at the time of the invention, would have been motivated to combine the two, in order to have a method for detecting an information technology (IT) network cable disconnection, generating connection state information from information supplied by said sensor, and communicating said connection state information to a connection state monitoring utility within the IT network, because both disclosures are directed to solving similar problem, which is detecting a connection sate of network cable. However, the combination of Kim and Rand et al., does not expressly

disclose receiving an interrogation signal from a connection state monitoring utility and using a network communication protocol. Billiard discloses a method for detecting a network cable disconnection (Col. 2, lines 24-36), and receiving an interrogation signal from a connection state monitoring utility (Col. 14, lines 57-67; Col. 15, lines 1-28).

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to have a method for detecting an information technology (IT) network cable connection state that incorporates receiving an interrogation signal from a connection state monitoring utility, as disclosed by Billiard, because Rand et al., discloses the cable connector detection may be used as supervised or non-supervised (Col. 2, lines 45-55) and incorporating an interrogation signal enhance a supervised method for monitoring a network cable connection state. However, the combination of Kim, Rand et al., and Billiard does not expressly disclose using a network communication protocol.

One of ordinary skill in the art, at the time of the invention, would have been motivated to incorporate a network communication protocol for detecting an information technology (IT) network cable connection state, in order the method to include receiving an interrogation signal from a connection state monitoring utility that uses a network communication protocol, because Rand et al., discloses a USB connector and it is well known and widely used in the art of network communication that network cable connection using USB and other similar connectors employ a network communication protocol.

15 As to claim 24, Kim discloses a information technology (IT) network cable connector (Col. 1, lines 40-43) comprising a connection state of the (IT) network cable connector to generate a connection state change signal, and the processor defined to respond to generation of the connection state change signal by transmitting connection state information over a communication network to indicate a connection state of said (IT) network cable connector (Col. 1, lines 49-59 Col. 2, lines 3-13, 39-57). However, Kim does not expressly disclose a sensor that senses the connection state and a processor that is coupled to a sensor. Rand et al., discloses a network cable connector (Col. 1, lines 40-43) comprising a sensor that senses a connection state of the connector and state change signal (Col. 3, lines 17-25, 29-54, 60-64; Col. 4, lines 1-11).

One of ordinary skill in the art, at the time of the invention, would have been motivated to combine the two, in order to have a sensor that senses connection state information to a connection state monitoring utility within the IT network, because both disclosures are directed to solving similar problem, which is detecting a connection sate of network cable.

16 As to claims 5, 16 and 25, the connector and method of claims 1, 14 and 24, further, Billiard discloses wherein said network cable connector further comprises a processor and a memory (Col. 12, lines Col. 14, lines 21-30; Item 8 of figure 6).

17 As to claims 6, 17 and 26, the connector and method of claim 5, 14 and 24, further, Billiard discloses a transmission control protocol (Col. 14, lines 1-20), however,

the combination of Rand et al., and Billiard does not expressly disclose the communication protocol selected from the group that includes IPv6 (Internet Protocol Version 6), TCP (Transmission Control Protocol), finger, and SNMP (Simple Network Management Protocol).

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to have the communication protocol selected from the group that includes IPv6 (Internet Protocol Version 6), TCP (Transmission Control Protocol), finger, and SNMP (Simple Network Management Protocol), because the protocols are well known in the art and widely used and one skilled in the art may choose a particular or a combination of different communication protocols as desired.

18 As to claim 8, the method of claim 5, further, Billiard discloses wherein said network cable connector receives a communication from the connection state monitoring utility within the IT network that interrogates said sensor regarding the connection state of said connector (Col. 2, lines 24-36; Col. 14, lines 57-67; Col. 15, lines 1-28).

19 As to claims 9, 19 and 30, the connector and method of claims 1, 14 and 24, further, Billiard discloses the combination wherein said connection state information is transmitted wirelessly to said connection state monitoring utility (Col. 10, lines 45-50).

20 As to claims 12, 22 and 38, the connector and method of claims 1, 14 and 26, further, Billiard discloses detecting, generating and communicating information related to power status, fuse status, carrier signal status and temperature (Col. 9, lines 9-26; Col. 13, lines 18-27).

21 As to claims 13, 23 and 39, the connector and method of claims 1, 14 and 26, further, Rand et al., discloses wherein electrical power for detecting said network cable disconnection is obtained from the network (Col. 3, lines 48-54).

22 As to claims 15 and 31, the connector and method of claims 14 and 24, further, Rand et al., discloses wherein said contact sensor includes a switch selected from the group that includes mechanical, electrical, resistive, optical and capacitive (Col. 4, line 2; Item 40 of figure 3).

23 As to claim 18, the method of claim 17, further, Rand et al., discloses wherein a cable plug is attached to an endpoint of said network cable (Items 12 and 21 of figure 1).

24 As to claim 27, the connector of claim 24, further, both Rand et al., and Billiard disclose wherein said sensor is a contact sensor (Col. 3, lines 17-25 of Rand et al.).

25 As to claim 28, the connector of claim 24, further, Billiard discloses wherein said processor operates in response to an interrogation signal to ascertain connection state information (Col. 14, lines 57-67; Col. 15, lines 1-28).

26 As to claim 29, the connector of claim 24, further, Billiard discloses wherein said processor operates in response to said connection state change signal (Col. 2, lines 48-54).

27 As to claim 32, the connector of claim 24, however, the combination of Rand et al., and Billiard does not expressly disclose wherein said network cable connector comprises an RJ45 twisted pair connector.

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to have a cable connector comprises an RJ45 twisted pair connector, because one skilled in the art may use any available network connector cable, which includes RJ45 twisted pair. RJ45cable is well known in the network connection cable art and widely used.

28 As to claim 35, the connector as described in claim 24, further, Rand et al., discloses wherein said network cable connector is a plug (Col. 3, lines 60-64; Items 12 and 21 of figure 1).

29 As to claim 36, the connector as described in claim 24, further, Rand et al., discloses wherein said network cable connector is a cable socket (Col. 3, lines 60-64; Items 31 and 52 of figure 1).

30 As to claim 37, the connector as described in claim 24, further, Billiard discloses wherein said network cable connector is a power connector (Col. 4, lines 55-67).

31 Claims 10, 11, 20, 21 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent of Kim (6,975,312 B2) in view of Rand et al., and further in view of Billiard and further in view of US patent of Laor (6,002,331).

32 As to claim 10, the method of claim 1, however, the combination of Kim, Rand et al., and Billiard does not expressly disclose wherein a unique identification is mapped to said network cable connector. Laor discloses a unique identification being mapped to a connector (Col. 7, lines 27-44; Item 300 of figure 5).

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to have a unique identification is mapped to a connector, as disclosed by Laor, so that it would be desirable to identify different cable connectors correctly where the connector is used in a large network environment.

33 As to claim 11, the method of claim 10, further, Laor discloses communicating said unique identification with said connection state information (Col. 7, lines 53-59).

34 As to claims 20 and 33, the connector and method of claims 16 and 25, further, Laor discloses wherein a unique identification is mapped to a memory of said network cable connector (Col. 6, lines 51-62).

35 As to claims 21 and 34, the connector and method of claims14 and 25, further, Laor discloses memory records a cable connector information and reading the network cable connector status (Col. 5, lines 39-60).

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to have a memory records a cable connector change in state occurs and reading the time that said cable connector disconnected, so that it would be desirable to identify different cable connectors connection status at various point in time as to facilitate proper diagnoses in case of a connection failure.

Conclusion

36 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sisay Yacob whose telephone number is (571) 272-8562. The examiner can normally be reached on Monday through Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery A. Hofsass can be reached on (571) 272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sisay Yacob

12/09/2006

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